

# List of All Chemicals

## P *Salvia gilliesii* (Lamiaceae)

### Common name(s)

'Cordoba' Sage

### How used

Medicinal

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

| Chemical           | Plant Part | Low PPM | High PPM | StdDev | *Reference   |
|--------------------|------------|---------|----------|--------|--|
| ALLO-AROMADENDRENE | Shoot      | --      | 70.0     | -0.1   | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| ALPHA-COPAENE      | Shoot      | --      | 41.0     | 0.12   | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| ALPHA-CUBEBENE     | Shoot      | --      | 5.0      | -0.46  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| ALPHA-PINENE       | Shoot      | --      | 55.0     | -0.14  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

### Activities (28)

|                                  |  |
|----------------------------------|--|
| Allelochemic                     |  |
| Allergenic                       |  |
| Antiacne                         |  |
| Antibacterial                    |  |
| Antifeedant                      |  |
| Antiflu                          | Economic & Medicinal Plant Research, 5: 195.   |
| Antiinflammatory 500 mg/kg       |  |
| Antipneumonic                    |  |
| Antiseptic                       |  |
| Antispasmodic                    |  |
| Antistaphylococcic               |  |
| Antiviral                        | Economic & Medicinal Plant Research, 5: 195.   |
| Cancer-Preventive                | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Coleoptophile                    |  |
| Expectorant                      | Michael Castleman 1991. The Healing Herbs. Rodale Press, Emmaus, PA 436 pp.  |
| FLavor FEMA 15-150               | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide IC50=30 uM             | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.     |
| Insecticide 0.82 uM/fly          |  |
| Insectifuge 50 ppm               |  |
| Insectiphile                     | J. Stored. Prod. Res., 22:141, 1986.   |
| Irritant                         | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, Londón. 791 pp. |
| P450-2B1-Inhibitor IC50=0.087 uM |  |
| Perfumery                        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide                        |  |
| Sedative                         | Lawrence Review of Natural Products, Jun-90.   |
| Spasmogenic                      |  |
| Tranquilizer                     | Lawrence Review of Natural Products, Jun-90.   |
| Transdermal                      |  |

|                 |       |    |     |       |  |
|-----------------|-------|----|-----|-------|--|
| ALPHA-TERPINEOL | Shoot | -- | 7.5 | -0.28 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|-----------------|-------|----|-----|-------|--|

### Activities (23)

|   |   |
|---|---|
| ACE-Inhibitor 100 ug/ml (weak activity) |   |
| Aldose-Reductase-Inhibitor 100 ug/ml    | Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpene from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.   |
| Allelopathic                            | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |

|  |   |
|--|---|
| Antibacterial<br>MIC=800-1,600<br>ug/ml  | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . J. Agric. Food Chem. 41: 1102-1105.   |
| Anticancer                               | Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.  |
| Anticariogenic<br>MIC=800-1,600<br>ug/ml | Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against <i>Streptococcus mutans</i> . J. Agric. Food Chem. 41: 1102-1105.   |
| Antiinflammatory                         |   |
| Antiproliferant                          |   |
| Antiseptic                               | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Cicatrizant<br>ED50=240 ug/g mus         |   |
| FLavor FEMA 5-40                         | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry   |
| Insecticide 1.29<br>uM/fly               |   |
| Interleukin-6-<br>Inhibitor              |   |
| Mosquitofuge ><br>Deet                   |   |
| Motor-Depressant                         | Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Nematicide MLC=1<br>mg/ml                | Shoyakugaku Zasshi, 44: 183.  |
| Perfumery                                | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.  |
| Pesticide                                |   |
| Sedative                                 | Buchbauer et al, e.g.Buchbauer et al,1993.Therapeutic properties of essential oils and fragrances. Chap.12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Termiticide IC100=5<br>mg/g              |   |
| Transdermal                              |   |
| Vulnerary<br>ED50=240 ug/g mus           |   |

|               |       |    |      |       |  |
|---------------|-------|----|------|-------|--|
| ALPHA-THUJENE | Shoot | -- | 2.5  | -0.51 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| ALPHA-THUJONE | Shoot | -- | 28.0 | -0.27 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

#### Activities (6)

|               |   |    |      |       |  |
|---------------|---|----|------|-------|--|
| Abortifacient | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.                                  |    |      |       |  |
| Antibacterial | J. Ess. Oil Res. 7: 271.  |    |      |       |  |
| Emmenagogue   | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.                                  |    |      |       |  |
| Insecticide   |   |    |      |       |  |
| Larvicide     | Misra, L.N. and Singh, S.P. Alpha-Thujone, The Major Component Of The Essential Oil From <i>Artemisia vulgaris</i> Growing Wild In Nilgiri Hills. Journal of Natural Products, 49: 941, 1986. |    |      |       |  |
| Pesticide     |   |    |      |       |  |
| AROMADENDRENE | Shoot   | -- | 35.0 | -0.17 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

#### Activities (3)

|                       |  |
|-----------------------|--|
| Antiseptic            | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp. |
| Cancer-<br>Preventive | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Pesticide             |  |

|                    |       |    |       |       |  |
|--------------------|-------|----|-------|-------|--|
| BETA-BOURBONENE    | Shoot | -- | 44.0  | -0.05 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| BETA-CARYOPHYLLENE | Shoot | -- | 720.0 | 1.05  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| BETA-ELEMENE       | Shoot | -- | 5.5   | -0.32 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

#### Activities (5)

|                     |  |
|---------------------|--|
| Anticancer (Cervix) | Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987. |
| Antigliomic         |  |
| Antiproliferant     |  |
| Antitumor (Cervix)  | Medicinal and Poisonous Plants of the Tropics. Leeuwenberg, A.J.M., ed. Pudoc, Wageningen. 1987. |
| Apoptotic           |  |

|             |       |    |     |       |  |
|-------------|-------|----|-----|-------|--|
| BETA-PINENE | Shoot | -- | 4.5 | -0.12 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|-------------|-------|----|-----|-------|--|

## ACTIVITIES (13)

|                    |  |
|--------------------|--|
| Allergenic         |  |
| Antiinflammatory   |  |
| Antiseptic         | Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.  |
| Antispasmodic      |  |
| Candidicide        |  |
| FLavor FEMA 15-600 | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Herbicide          | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Insectifuge        | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Irritant           | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Perfumery          | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Pesticide          |  |
| Spasmogenic        | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |
| Transdermal        |  |

|                  |       |    |        |       |  |
|------------------|-------|----|--------|-------|--|
| BICYCLOGERMACENE | Shoot | -- | 1420.0 |       | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| CAMPHENENE       | Shoot | -- | 3.5    | -0.13 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

## Activities (9)

|                      |  |
|----------------------|--|
| Allelopathic         | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles. <i>Artemisia</i> .344pp.Maffei,M.(Ed)2002. <i>Vetiveria</i> .The Genus <i>Vetiveria</i> .Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999. <i>Tea Tree</i> .The Genus <i>Melaleuca</i> .Harwood Acad.Pub.Amsterdam,Netherlands. |
| Antilithic?          | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Antioxidant          | Jim Duke's personal files.   |
| Expectorant          | Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.   |
| FLavor FEMA 15-175   | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Hypocholesterolemic? | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Insectifuge          | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Pesticide            |  |
| Spasmogenic          | Fitoterapia No.59-1984.  |

|         |       |    |      |       |  |
|---------|-------|----|------|-------|--|
| CAMPHOR | Shoot | -- | 60.0 | -0.16 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|---------|-------|----|------|-------|--|

## Activities (41)

|                                 |  |
|---------------------------------|--|
| Allelopathic                    |  |
| Analgesic                       |  |
| Anesthetic                      |  |
| Antiacne                        | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.   |
| Antidiarrheic 500 ug/ml         | Wealth of India.   |
| Antidysenteric 500 ug/ml        | Wealth of India.   |
| Antiemetic 100-200 mg man orl   | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.  |
| Antifeedant IC50=5,000 ppm diet | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.                       |
| Antifibrotic                    | Martindale's 28th  |
| Antineuragic                    | Martindale's 28th  |
| Antipruritic                    | Merck 11th Edition   |
| Antiseptic                      | Merck 11th Edition   |
| Antispasmodic ED50=0.075 mg/ml  | Fitoterapia No.59-1984.  |
| CNS-Stimulant                   |  |
| Cancer-Preventive               | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Carminative                     | Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.  |
| Convulsant                      | R.J. Hixtable (Huxtable, R.J. (as T. Max)). 1992. This and That:The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benificent Nature. The Risk of Herbal Preparations. Ann. Intern. Med. 117(2):165-6; Huxtable, R. |
| Cosmetic                        | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Counterirritant                 | Martindale's 28th  |
| Decongestant                    | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.   |
| Deliriant                       | Merck 11th Edition   |
| Ecbolic                         |  |
| Emetic                          |  |
| Epileptogenic                   | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.   |

|                                    |  |
|------------------------------------|--|
| Fungicide<br>ED50=2.7 mM           | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Herbicide<br>IC50=3.3-180 mM       | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.                     |
| Insect-Repellent                   |  |
| Insectifuge                        |  |
| Irritant                           | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Nematicide MLC=1 mg/ml             | Shoyakugaku Zasshi, 44: 183.   |
| Occulorirrant                      |  |
| P450-2B1-Inhibitor<br>IC50=7.89 uM |  |
| Pesticide                          |  |
| Respirainhibitor                   | Merck 11th Edition   |
| Respirastimulant                   | Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.  |
| Rubefacient                        |  |
| Stimulant                          | R.J. Hixtable (Huxtable, R.J. (as T. Max). 1992. This and That: The Essential Pharmacology of Herbs and Spices. Tips 13:15-20 Huxtable, R.J. 1992b. The Myth of Benicent Nature. The Risk of Herbal Preparations. Ann. Intern. Med. 117(2):T65-6; Huxtable, R. |
| Transdermal                        |  |
| Verrucolytic                       | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.   |
| Vibriocide 500 ug/ml               | Wealth of India.   |

|         |       |    |      |       |  |
|---------|-------|----|------|-------|--|
| CARVONE | Shoot | -- | 34.0 | -0.25 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|---------|-------|----|------|-------|--|

#### Activities (19)

|   |  |
|---|--|
| Allergenic                                  |  |
| Antiacetylcholinesterase<br>IC50=1.4-1.8 mM |  |
| Antiproliferative                           |  |
| Antiseptic 1.5 x phenol                     | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)  |
| CNS-Stimulant                               |  |
| Cancer-Preventive                           | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Candidstat                                  |  |
| Carminative                                 | Yamamoto, A., Umemori, S., and Muranishi, S. 1993. Absorption Enhancement of Intrapulmonary Administered Insulin by Various Absorption Enhancers and Protease Inhibitors in Rats. J. Pharm. Pharmacol. 46: 14-18, 1994.  |
| FLavor FEMA 80-3,000                        | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Fungistat                                   |  |
| Insecticide                                 | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Insectifuge                                 | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Motor-Depressant                            | Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap,12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Nematicide MLC=1 mg/ml                      | Shoyakugaku Zasshi, 44: 183.   |
| Perfumery                                   | Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.   |
| Pesticide                                   |  |
| Sedative                                    | Buchbauer et al, e.g.Buchbauer et al,1993.Theapeutic properties of essential oils and fragrances. Chap,12 in Teranishi,R, Buttery,R.G and Sugisawa,H. Eds. Bioactive Volatile Compounds from Plants. ACS Symposium Series 525. Amer. Chem. Soc., Washington DC |
| Trichomonicide<br>LD100=300 ug/ml           |  |
| Vermicide                                   |  |

|                     |       |    |       |      |  |
|---------------------|-------|----|-------|------|--|
| CARYOPHYLLENE-OXIDE | Shoot | -- | 205.0 | 0.05 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|---------------------|-------|----|-------|------|--|

#### Activities (8)

|                                      |   |
|--------------------------------------|---|
| Antiedemic                           | Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' ( <i>Lavandula latifolia</i> Vill.)2) Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |
| Antifeedant                          | Bettarini, F., Borgonovi, G.E., et al. 1991. Antiparasitic Compounds from East African Plants: Isolation and Biological Activity of Anonaine, Matricarianol, Canthin-6-Öne and Caryophyllene Oxide. Insect Sci. Applic. 14(1): 93-99, 1993.                     |
| Antiinflammatory                     | Shimizu,*M., et al. 1990. Anti-inflammatory Constituents of Topically Applied Crude Drugs. IV.1) Constituents and Anti-inflammatory Effect of Paraguayan Crude Drug 'Alhucema' ( <i>Lavandula latifolia</i> Vill.)2) Chem. Pharm. Bull. 38(8): 2283-2284, 1990. |
| Antitumor                            | Zheng, G-Q., Kenney, P.M., and Lam, L.K.T. Sesquiterpenes From Clove ( <i>Eugenia caryophyllata</i> ) As Potential Anticarcinogenic Agents. Journal of Natural Products 55(7): 999-1003, 1992.  |
| Calcium-Antagonist<br>ED50=32 uM gpg |   |
| Fungicide                            |   |
| Insecticide                          | Bettarini, F., Borgonovi, G.E., et al. 1991. Antiparasitic Compounds from East African Plants: Isolation and Biological Activity of Anonaine, Matricarianol, Canthin-6-Öne and Caryophyllene Oxide. Insect Sci. Applic. 14(1): 93-99, 1993.                     |
| Pesticide                            |   |

|                |       |    |     |  |  |
|----------------|-------|----|-----|--|--|
| CIS-CALAMENENE | Shoot | -- | 0.1 |  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|----------------|-------|----|-----|--|--|

|                |       |    |      |       |  |
|----------------|-------|----|------|-------|--|
| CIS-VERBENOL   | Shoot | -- | 2.5  | -0.45 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| DELTA-CADINENE | Shoot | -- | 40.0 | -0.05 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

**Activities (9)**

Aldose-Reductase-Inhibitor

Antiacne

Antibacterial MIC800 ug/ml Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against *Streptococcus mutans*. J. Agric. Food Chem. 41: 1102-1105.Anticariogenic MIC800 ug/ml Muroi, H. and Kubo, I. 1993. Combination Effects of Antibacterial Compounds in Green Tea Flavor against *Streptococcus mutans*. J. Agric. Food Chem. 41: 1102-1105.

Antistreptococcic

Cytochrome-P450-Inducer

P450-Inducer

Pesticide

Testosterone-Inducer

|                |       |    |        |       |  |
|----------------|-------|----|--------|-------|--|
| DELTA-ELEMENE  | Shoot | -- | 185.0  | 1.93  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| EO             | Shoot | -- | 5000.0 | -0.49 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| GAMMA-CADINENE | Shoot | -- | 36.0   | -0.15 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| GAMMA-ELEMENE  | Shoot | -- | 27.0   | 0.04  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| GERMACRENE-D   | Shoot | -- | 575.0  | -0.05 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

**Activities (2)**

Pesticide

Pheromone

|                    |       |    |       |       |  |
|--------------------|-------|----|-------|-------|--|
| ISO-DIHYDROCARVEOL | Shoot | -- | 4.0   | -0.75 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| LIMONENE           | Shoot | -- | 180.0 | -0.24 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

**Activities (60)**

AChE-Inhibitor

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. &amp; Physiol., 23, 1985, 383-8.

Acaricide LC100=8 uM

Allelochemic

Allergenic 1/20th carene

Antiacylcholinesterase IC22-26=1.2 mM

Antiademonic

Antialzheimeran?

Grundy, D. L. and Still, C. C., Inhibition of acetylcholinesterases by pulegone-1,2-epoxide, Oest. Biochem. &amp; Physiol., 23, 1985, 383-8.

Antiasthmatic

Revista Itiliana Eppos, 12: 5, 1994.

Antibacterial

Anticancer

Antiesophagitic

Antifeedant

Antiflu

Economic &amp; Medicinal Plant Research, 5: 195.

Antiinflammatory

Antilithic

Antilymphomic

Antimetastatic (Stomach)

Economic &amp; Medicinal Plant Research, 6: 235.

Antimutagenic

Antiobesity

Antiseptic

Antispasmodic ED50=0.197 mg/ml

Fitoterapia No.59-1984.

Antitumor

Antitumor (Breast)

Antitumor (Colon)

|   |  |
|---|--|
| Antitumor (Prostate)                                |  |
| Antitumor (Stomach)                                 |  |
| Antiviral   |  |
| Apoptotic   |  |
| Bronchoprotectant                                   |  |
| Cancer-Preventive                                   | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| Candidstat  |  |
| Chemopreventive                                     |  |
| Cholesterolytic                                     |  |
| Detoxicant  |  |
| Enterocontractant                                   | J. Aromatherapy 4: 22.   |
| Expectorant   |  |
| FLavor  |  |
| Fungiphilic   | J. Agric. Food Chem. 43: 2283.   |
| Fungistat   |  |
| GST-Inducer   |  |
| Herbicide IC50=45 uM                                | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp. |
| Histaminic  |  |
| Immunomodulator                                     |  |
| Insecticide 0.37 uM/fly                             |  |
| Insectifuge   | Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.   |
| Interleukin-6-Inhibitor                             |  |
| Irritant  |  |
| Lipolytic   |  |
| Myorelaxant 50 mg/kg                                |  |
| NO-Genic  |  |
| Nematicide IC=100 ug/ml                             | Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.                     |
| Ornithine-Decarboxylase-Inhibitor ~750 mg/kg (diet) |  |
| Ozone-Scavenger                                     |  |
| P450-Inducer  |  |
| Peristaltic   |  |
| Pesticide   |  |
| Photosensitizer                                     | Rinzler, C. A. 1990. The Complete Book of Herbs, Spices and Condiments. Facts on File, New York. 199 pp.   |
| Sedative ED=1-32 mg/kg                              | Wagner & Wolff, eds. 1977. New Natural Products (RS164. I56. 176)  |
| Transdermal   |  |

MYRCENE Shoot -- 29.0 -0.31 Velasco-Negueruela, A. et al. 1993. The Essential Oil of *Salvia gilliesii* Benth. J. Ess. Oil Res. 5: 319-320.

#### Activities (22)

|                                      |  |
|--------------------------------------|--|
| ACE-Inhibitor 100 ug/ml              |  |
| Aldose-Reductase-Inhibitor 100 ug/ml | Okamura, K., Iwakami, S., Matsunaga, T. 1992. Biological Activity of Monoterpenes from Trees. Toyama-Ken Yakuji Kenkyusho Nenpo, (20): 95-101.   |
| Allergenic                           |  |
| Analgesic                            | Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.                           |
| Antibacterial                        |  |
| Anticonvulsant                       |  |
| Antimutagenic                        | Kauderer, B., Zamith, H., Paumgartten, F.J.R., and Speit, G. Evaluation of the Mutagenicity of B-Myrcene in Mammalian Cells In Vitro. Environmental and Molecular Mutagenesis 18: 28-34, 1991.                           |
| Antinitrosaminic                     |  |
| Antinociceptive 10-20 mg/kg ipr mus  | Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.  |
| Antinociceptive 20-40 mg/kg scu mus  | Rao, V.S.N., Menezes, A.M.S., Viana, G.S.B. 1990. Effect of myrcene on nociception in mice. J. Pharm. Pharmacol. 42: 877-878, 1990.  |
| Antioxidant                          | Jim Duke's personal files.   |
| Antispasmodic                        | Jim Duke's personal files.   |
| Chemopreventive                      | Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.  |
| FLavor FEMA 0.5-9                    | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Fungicide                            | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Hypothermic                          |  |
| Insectifuge                          |  |
| Irritant                             | Zebowitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Myorelaxant 100-200 mg/kg            |  |
| P450-2B1-Inhibitor IC50=0.14 uM      |  |
| Perfumerv                            | Iefferv B. Harborne and H. Baxter. eds. 1983. Phvtochemical Dictionarv. A Handbook of Bioactive Compounds from Plants. Taylor & Frost. London.   |

## Pesticide

|                  |       |    |      |     |  |
|------------------|-------|----|------|-----|--|
| MYRtenyl-acetate | Shoot | -- | 41.0 | 1.0 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|------------------|-------|----|------|-----|--|

## Activities (1)

Perfumery Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

|          |       |    |      |       |  |
|----------|-------|----|------|-------|--|
| P-CYMENE | Shoot | -- | 52.0 | -0.46 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|----------|-------|----|------|-------|--|

## Activities (16)

|  |  |
|--|--|
| Analgesic                                | Martindale's 28th  |
| Antiacyetylcholinesterase<br>IC40=1.2 mM |  |
| Antibacillary                            |  |
| Antibacterial                            |  |
| Antiflu                                  |  |
| Antirheumatalgic                         | Martindale's 28th  |
| Antiviral                                |  |
| FLavor FEMA 12-250                       | Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry  |
| Fungicide                                | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Herbicide IC50=50 uM                     | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.   |
| Insectifuge                              | Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.      |
| Irritant                                 | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Laxative                                 | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Pesticide                                |  |
| Sedative                                 | Zebovitz, T. C. Ed. 1989. Part VII. Flavor and Fragrance Substances, in Keith L. H. and Walters, D.B., eds. Compendium of Safety Data Sheets for Research and Industrial Chemicals. VCH Publishers, New York. 3560-4253. |
| Trichomonicide<br>LD100=50 ug/ml         |  |

|                        |       |    |     |  |  |
|------------------------|-------|----|-----|--|--|
| P-MENTHA-10,3,8-TRIENE | Shoot | -- | 3.0 |  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|------------------------|-------|----|-----|--|--|

|             |       |    |       |      |  |
|-------------|-------|----|-------|------|--|
| SPATHULENOL | Shoot | -- | 225.0 | 0.86 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|-------------|-------|----|-------|------|--|

|               |       |    |     |       |  |
|---------------|-------|----|-----|-------|--|
| TERPINEN-4-OL | Shoot | -- | 7.5 | -0.16 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
|---------------|-------|----|-----|-------|--|

## Activities (23)

|   |   |
|---|---|
| Allelopathic                                | Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands. |
| Antiacyetylcholinesterase<br>IC21-24=1.2 mM |   |
| Antiacne                                    |   |
| Antiallergic                                |   |
| Antiasthmatic                               | Chin. J. Tuber. Respir. Dis., 4:203, 1982.  |
| Antibacterial                               |   |
| Antioxidant                                 |   |
| Antiseptic                                  | Flav. & Frag. J. 9: 129.  |
| Antispasmodic                               |   |
| Antitussive                                 | Chin. J. Tuber. Respir. Dis.  |
| Antiulcer                                   |   |
| Bacteriostatic                              | Chin. J. Tuber. Respir. Dis.  |
| Diuretic 0.1 ml/rat                         |   |
| Fungicide                                   |   |
| Herbicide IC50=200 mM                       | Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.                      |
| Herbicide IC50=22 uM                        | Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.  |
| Insectifuge                                 |   |
| Irritant                                    | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.  |
| Nematicide MLC=1 mg/ml                      | Shoyakugaku Zasshi, 44: 183.  |
| Pesticide                                   |   |
| Renoirritant                                | Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.  |
| Spermicide ED100=0.015                      |   |
| Vulnerary                                   | Lawrence Review of Natural Products, Jan-91.  |

|                         |       |    |      |       |  |
|-------------------------|-------|----|------|-------|--|
| TRANS-ALPHA-BERGAMOTENE | Shoot | -- | 10.0 | -0.6  | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| TRANS-CARVYL-ACETATE    | Shoot | -- | 10.0 | -0.15 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |
| VERBENONE               | Shoot | -- | 65.0 | -0.16 | Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320. |

#### Activities (5)

Allelochemic

Coleopterifuge

Insectifuge

Perfumery

Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry

Pesticide